

THE HONORABLE THOMAS S. ZILLY

UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF WASHINGTON

BUNGIE, INC.,

Plaintiff,

v.

AIMJUNKIES.COM; PHOENIX  
DIGITAL GROUP LLC; DAVID  
SCHAEFER; JORDAN GREEN;  
JEFFREY CONWAY; AND JAMES  
MAY,

Defendants.

No. 2:21-cv-811-TSZ

DECLARATION OF EDWARD KAISER IN  
SUPPORT OF PLAINTIFF'S MOTION FOR  
PRELIMINARY INJUNCTION

I, Edward Kaiser, declare as follows:

1. I am an Engineering Lead for Plaintiff Bungie, Inc. ("Bungie" or "Plaintiff"). I submit this declaration in support of Plaintiff's Motion for Preliminary Injunction. I have personal knowledge of the facts stated herein and, if called upon, could and would testify competently thereto under oath.

2. I earned a Bachelor of Applied Science in Computer Engineering from the University of Waterloo in 2003. In 2010, I graduated from Portland State University with a Ph.D. in Computer Science, Network Security.

3. I have been employed by Bungie since October 2010. From October 2010 through September 2011, I was an Associate Engineer, working on preproduction of the video game *Destiny*. I was then promoted to Engineer at Bungie, a position that I held for over four years. As

KAISER DECL. ISO PLAINTIFF'S MOT.  
FOR PRELIM. INJ.  
(No. 2:21-cv-811-TSZ) – 1

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1 an Engineer, I worked on the video game *Destiny* as part of the Matchmaking team. My  
2 responsibilities at that time included designing and implementing core game systems for both  
3 *Destiny* and *Destiny 2*. In October 2015, I was again promoted to Senior Engineer, during which  
4 time my responsibilities included working on research and development for future versions of  
5 *Destiny* and *Destiny 2*, collaborating with designers and other engineers to develop feature  
6 specifications, and working with other engineers to overhaul and modernize the *Destiny* and  
7 *Destiny 2* game engines, i.e., the software that supports gameplay, networking, and display, among  
8 other functions.

9 4. I became an Engineering Lead at Bungie in June 2018. In this role, I led the *Destiny*  
10 games-as-a-service Vanguard Engineering team. I was responsible for the technical aspects of  
11 shipping major releases quarterly, and frequent (sometimes weekly) hotfixes in between major  
12 releases. I built technical plans, evaluated technical and design risks, and ensured new game  
13 experiences fit within memory and perf budgets.

14 5. Since October 2021, I have led the Product Security Team within the Central  
15 Technology group. I am responsible for the technical aspects of software security for all Bungie  
16 products. I manage a team of senior engineers and security analysts. I review technical plans,  
17 evaluate technical risks, and ensure that Bungie products are as secure as possible.

18 6. *Destiny 2* is a video game that was released in September 2017, that is now a free-  
19 to-play game with paid expansions, continually refreshed downloadable content (“DLC”), and an  
20 estimated player base of over 30 million players. Among other DLC, one of Bungie’s recent  
21 expansions is *Destiny 2: Beyond Light*, released on November 10, 2020.<sup>1</sup>

22 7. I am intimately familiar with the *Destiny* and *Destiny 2* game engines, including  
23 the software code on which they are based, having developed and improved core systems since  
24 *Destiny* preproduction in October 2011.

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25  
26 <sup>1</sup> For ease of reference, *Destiny 2* and *Destiny 2: Beyond Light* are collectively referred to hereafter as  
“*Destiny 2*”.

1           8. I also have substantial experience identifying, investigating, and implementing  
2 fixes to stop cheaters and other bad actors in *Destiny 2*. Cheat software is computer code that  
3 copies, modifies, and/or interacts with a game engine, such as the engine for *Destiny 2*, in order to  
4 enable the user of the cheat software to perform certain actions or see certain information within  
5 *Destiny 2* that non-cheating players cannot do or see. For example, cheat software may enable a  
6 cheat user to see non-cheating players through solid walls, to automatically aim their weapon at a  
7 non-cheating player without requiring any input by the cheat user, or to modify the cheat user's  
8 character or weapon attributes.

9           9. My experience identifying, investigating, and implementing fixes to stop cheaters  
10 includes my Ph.D thesis, which incorporated novel techniques for identifying cheaters and  
11 proportionally limiting their access based on the scale of their negative impact within the game,  
12 advising on various security features within the *Destiny 2* game engine including special  
13 networking to prevent Distributed-Denial-of-Service attacks on players as well as matchmaking  
14 and game designs to mitigate some of the impact of cheaters on non-cheating players, and  
15 investigations into *Destiny 2* cheat software and those who develop it.

16           10. I am familiar with the cheat software sold by Defendants AimJunkies.com, Phoenix  
17 Digital Group LLC, David Schaefer, and James May (collectively, "Defendants") through the  
18 website AimJunkies.com (hereafter, the "Cheat Software"). I first learned of the Cheat Software  
19 on October 13, 2021 as I took over leadership of the Product Security team and was debriefed on  
20 the status of a number of ongoing investigations. Bungie routinely collects information about  
21 cheat activity detected in *Destiny 2*, including information about the hardware, account, and IP  
22 addresses used to access the software; and collects reports from impacted non-cheating players.  
23 In the case of AimJunkies, having identified a large volume of cheating activity, Bungie obtained  
24 a copy of the Cheat Software. The team analyzed it to understand its features. I have reviewed  
25 and understand this analysis, which I describe in detail below.  
26

1           11.     The Cheat Software purports to include a feature titled Extra-Sensory Perception  
2 (“ESP”), which allows users of the Cheat Software to see the location of other *Destiny 2* players  
3 and non-player characters, including through solid walls, by displaying a distinct box around the  
4 other players, displaying the players’ names, and their distance from the cheat user. In order to  
5 show the cheat users the location of players in *Destiny 2*, the Cheat Software needs to (a) ascertain  
6 the location of other players and (b) display the relevant information to the cheat user. Both of  
7 these actions require copying and modifying Bungie’s software code in *Destiny 2*.

8           12.     One part of Bungie’s software code for *Destiny 2* consists of data structures that  
9 correspond to certain attributes of *Destiny 2*, including, for example, player positioning (i.e., where  
10 each *Destiny 2* player and non-player character is located in *Destiny 2* at any given moment). The  
11 data structures provide a precise layout for individual pieces of data stored and organized in a  
12 computer’s memory so that the video game functions as intended when running on the players’  
13 computers. For example, the player positioning data tells the software where a player is located  
14 within the world of *Destiny 2*, including the player’s position, movement, and facing.

15           13.     Another part of Bungie’s software code for *Destiny 2* consists of data structures and  
16 functions dedicated to *Destiny 2*’s rendering, which determines what each player sees from their  
17 character’s perspective and where the player is aiming their character’s weapon while playing  
18 *Destiny 2*.

19           14.     To enable the Cheat Software’s ESP feature, the Defendants needed to copy the  
20 data structures associated with player positioning in *Destiny 2* to ascertain the location of other  
21 characters, and reverse engineer the software code for *Destiny 2*’s rendering functions to modify  
22 what is displayed. Defendants then had to incorporate cheat software derived from copied *Destiny*  
23 *2* code into every copy of the Cheat Software that they sold or distributed.

24           15.     To use the Cheat Software, the cheat user runs an authentic copy of *Destiny 2* on  
25 their computer while also running a copy of the Cheat Software. In order for the Cheat Software  
26 features to work while playing *Destiny 2*, the Cheat Software injects into (i.e., runs its software

1 code inside) the *Destiny 2* engine. The injected code extracts information to which the cheat user  
2 does not ordinarily have access from the player positioning data structures and then manipulates  
3 the rendering data structures and calls the camera and display functions (that are ordinarily only  
4 called by other game functions within authentic copy of *Destiny 2*) to create the modified *Destiny 2*  
5 that displays boxes and player information around other characters.

6 16. The Cheat Software includes another feature titled “AIMBOT,” which allows  
7 Cheat Software users to aim their weapons automatically and accurately at other *Destiny 2* player  
8 and non-player characters with little to no input (i.e., movement of the mouse and/or controller  
9 joystick) by the cheat users.

10 17. As with the ESP feature, the AIMBOT feature of the Cheat Software could only  
11 function in *Destiny 2* if Defendants copied the *Destiny 2* software code that corresponds to the data  
12 structures for player positioning (i.e., which includes where the player is aiming their weapon),  
13 and/or reverse engineered the *Destiny 2* software code that calculates the angle deltas for mouse  
14 movements (i.e., software code used to calculate how far the weapon cursor moves in *Destiny 2* in  
15 response to inputs. Defendants then incorporated cheat software derived from copied *Destiny 2*  
16 code into every copy of Defendants’ Cheat Software that they sold or distributed.

17 18. In order for the Cheat Software to call the necessary functions within *Destiny 2* to  
18 enable Cheat Software users to automatically aim at other players, the Cheat Software must inject  
19 code into the authentic copy of *Destiny 2* on the users’ computers. The injected code modifies the  
20 player input data structures and calls functions in *Destiny 2* to automatically aim at other players.

21 19. The Cheat Software includes another feature known as “One Position Kill”  
22 (“OPK”), similar to another feature referred to as “teleport to crosshair,” which allows Cheat  
23 Software users to cause other players and characters to either respawn at or move (teleport) to a  
24 single position so that they may all be damaged by area-of-effect abilities at once, accelerating the  
25 rate at which cheat users accumulate rewards and accolades. In other words, the OPK cheat feature  
26 automatically teleports characters to a position advantageous to the cheat user, something that is

1 not permitted in the normal operation of *Destiny 2*. The OPK feature does not change the victim's  
2 display, so that they are often unaware of exactly how they have been victimized.

3 20. As with the ESP feature, the OPK feature of the Cheat Software could only function  
4 in *Destiny 2* if Defendants copied the *Destiny 2* software code that corresponds to the data  
5 structures for player and combatant positioning. Defendants would then have had to incorporate  
6 cheat software derived from copied *Destiny 2* code into every copy of Defendants' Cheat Software  
7 that they sold or distributed.

8 21. In order for the Cheat Software to call the necessary functions and manipulate the  
9 character positions to enable Cheat Software users to teleport other characters to one position, the  
10 Cheat Software must inject code into the authentic copy of *Destiny 2* on the cheat users' computers.  
11 The injected code modifies the player input data structures and calls functions in *Destiny 2* to  
12 teleport the other characters.

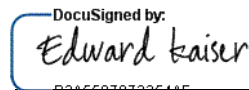
13 22. Bungie periodically modifies or updates the *Destiny 2* software code when new  
14 DLC is released or to fix known errors or bugs in the software code. These modifications or  
15 updates frequently include changes to the software code associated with the player positioning  
16 data structures, the rendering code, and other relevant data structures. If an update to the *Destiny*  
17 2 software code included updates to any code that the Cheat Software copies and/or modifies in  
18 order to provide its features, Defendants would need to update the Cheat Software to correspond  
19 with the changes to the *Destiny 2* software code. This would necessarily entail creating new copies  
20 of the updated *Destiny 2* data structures and software code, and incorporating those new copies  
21 into Defendants' updated Cheat Software.

22 23. Through at least December 2020, Bungie received over 6,000 reports from non-  
23 cheating *Destiny 2* players that other *Destiny 2* players were using the Cheat Software to obtain  
24 unfair advantages over non-cheating players. Based on these reports, Bungie has been able to  
25 identify 99 users of the Cheat Software and has banned those users from *Destiny 2*. Attached  
26

1 hereto as Exhibit 1 is a true and correct copy of an example of a *Destiny 2* user reporting a user of  
2 the Cheat Software.

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5 I declare under penalty of perjury under the laws of the United States that the foregoing is  
6 true and correct.

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8 Executed this 19th day of May, 2022.

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10 Edward Kaiser  
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